Nanoscopic Determination of Three-Phase Contact Line Tensions

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Two complementary ways of determining the tension of the three-phase contact lines of sessile drops are presented which do not suffer from the drawbacks of optical methods. They employ scanning force microscopy of the liquid interface and use either the modified Young equation or the concept of the effective interface potential for analysis. Both lead to consistent line tension values that are in good agreement with theoretical predictions, in contrast to many results obtained earlier in optical experiments.